REMARKS

Claims 1 and 63-76 were pending in the application. Claims 63 and 64 have been canceled without prejudice herein. Claims 1, 67-69, 71, and 76 have been amended herein. Accordingly, after the amendments presented herein have been entered, claims 1 and 65-76 will remain pending in the application.

Support for the amendments to the claims may be found throughout the specification. In particular, support for the amendments to claims 1 and 76 can be found at least at page 3, lines 31-32 and at least at page 8, line 27 through page 9, line 32 of the specification. No new matter has been added. Support for the amendments to claims 67-69 and 71 can be found at least at page 3, lines 6-8 of the specification and in claim 1 as filed.

Any amendments to and/or cancellation of the claims were done solely for the purpose of expediting prosecution and allowance of the pending claims. Applicant reserves the right to pursue the subject matter of the claims as originally filed in this or a separate application(s).

Status of Claims

The Examiner has requested clarification because "[a]pplicants in their remarks on pages 4 and 5 recite claims 63-77 as being added. This must have been a typographic error, since applicants only added new claims 63-76. Clarification is requested." Responsive to the Examiner's request, Applicants clarify herein that new claims 63-76 were added.

Rejection of Claims 1, 65-68, 71, 72 and 74 Under 35 U.S.C. § 102(b)

The Examiner has rejected claims 1, 65-68, 71, 72 and 74 under 35 U.S.C. §102(b) as allegedly being anticipated by Lindorfer *et al.* (*Journal of Immunology*, 167:2240-2249, 2001). In particular, the Examiner is of the opinion that "Lindorfer et al. teach a bispecific molecule comprising an anti-CR1 antibody linked to a non-neutralizing antibody that binds to a bacterial agent or toxin (see abstract and page 2241)."

Applicants respectfully traverse the foregoing rejection on the grounds that Lindorfer *et al.* fail to teach or suggest each and every element of the claimed invention. Reconsideration and withdrawal of the rejection in light of the following discussion is respectfully requested.

For a prior art reference to anticipate a claimed invention, the prior art reference must teach each and every element of the claimed invention. Lewmar Marine v. Barient 827 F.2d 744, 3 USPQ2d 1766 (Fed. Cir. 1987).

Claim 1, and the claims depending therefrom, are directed to bispecific molecules comprising an anti-CR1 antibody linked to a non-neutralizing antibody that specifically binds to *S. aureus* protein A. The instant specification defines the term "non-neutralizing" antibody as "antibody molecules or antigen binding fragments that bind to an antigen of a pathogenic agent, in its physiological form (e.g., a form which exists in an animal) but which, used alone, ***does not prevent or only minimally prevents infection or pathogenic effects of the pathogenic agent***" (Emphasis added) (see, *e.g.,* page 8, lines 27-31 of the instant specification).

Lindorfer *et al.* is directed to the targeting of *Pseudomonas aeruginosa* using bispecific monoclonal antibodies which comprise a monoclonal antibody specific to CR1 cross-linked with the antibacterial monoclonal antibody 2H4 (see, *e.g.,* Abstract and page 2241, left column, first full paragraph of Lindorfer *et al.*). Lindorfer *et al.* specifically note that the monoclonal antibody 2H4, by itself, is "capable of fixing complement" (see, *e.g.,* page 2244, left column, first sentence of Lindorfer *et al.*). Therefore, since the 2H4 antibody is capable of fixing complement, it can prevent infection or pathogenic effects of the pathogenic agent and is, by definition, ***a neutralizing antibody***. In contrast, the pending claims require a bispecific molecule comprising an anti-CR1 antibody ***linked to a non-neutralizing antibody*** that binds to a bacterial antigen or toxin. Moreover, Lindorfer fails to teach or suggest bispecific molecules comprising an anti-CR1 antibody linked to a non-neutralizing antibody that specifically binds to *S. aureus* protein A. Thus, Lindorfer *et al.* do not teach or suggest each and every element of the pending claims.

Therefore, Applicants respectfully submit that, contrary to the Examiner's assertions, Lindorfer *et al.* fail to teach or suggest each and every element of the claimed invention expressly and/or inherently and, thus, Lindorfer *et al.* fail to anticipate the claimed invention. For the foregoing reasons, rejection of the claimed invention is believed to be improper and Applicants respectfully request that it be reconsidered and withdrawn.

Rejection of Claims 1, 65-68, 71 and 72 Under 35 U.S.C. § 102(b)

The Examiner has rejected claims 1, 65-68, 71 and 72 under 35 U.S.C. §102(b) as allegedly being anticipated by Taylor *et al.* (U.S. Patent No. 5,470,570) ("the '570 patent"). In particular, the Examiner is of the opinion that

> Taylor et al. teach a bispecific molecule comprising an anti-CR1 antibody linked to a non-neutralizing antibody that binds to a bacterial antigen or toxin (see claims specifically claim 1, column 5 lines 24-30 and column 7 lines 5-15). Taylor et al. teach that the anti-CR1 antibody is cross-linked to the non-neutralizing antibody, and cross-linking agents (see column 3, lines 7-15). Taylor et al. teach monoclonal antibodies (see column 1, line 64 summary of invention). Taylor et al. also teach reduced immunogenicity of one or more antibodies (see column 7, lines 31-40). Taylor et al. teach multiple full-length antibodies (see table 1). The prior art anticipates the claimed invention.

Applicants respectfully traverse the foregoing rejection on the grounds that the '570 patent fails to teach or suggest each and every element of the claimed invention. Reconsideration and withdrawal of the rejection in light of the following discussion is respectfully requested.

For a prior art reference to anticipate a claimed invention, the prior art reference must teach each and every element of the claimed invention. Lewmar Marine v. Barient 827 F.2d 744, 3 USPQ2d 1766 (Fed. Cir. 1987).

Claim 1, and the claims depending therefrom, are directed to bispecific molecules comprising an anti-CR1 antibody linked to a non-neutralizing antibody that specifically binds to *S. aureus* protein A. The definition of "non-neutralizing" antibody is set forth above.

The '570 patent is directed to heteropolymerized monoclonal antibodies which comprise a monoclonal antibody specific to CR1 linked to a monoclonal antibody to an antigen, which are used to facilitate ***"neutralization and clearance*** from the circulation of the bound antigen" (Emphasis added) (see, *e.g.*, column 2, lines 5-7 of the '570 patent). Applicants submit that the '570 patent does not teach or suggest the use of bispecific molecules comprising an anti-CR1 antibody linked to ***a non-neutralizing antibody*** that binds to a bacterial antigen or toxin, let alone the use of bispecific molecules comprising an anti-CR1 antibody linked to a non-neutralizing antibody that specifically binds to *S. aureus* protein A as required by the pending claims.

Therefore, Applicants respectfully submit that, contrary to the Examiner's assertions, the '570 patent fails to teach or suggest each and every element of the claimed invention expressly and/or inherently and, thus, the '570 patent fails to anticipate the claimed invention. For the foregoing reasons, rejection of the claimed invention is believed to be improper and Applicants respectfully request that it be reconsidered and withdrawn.

Rejection of Claims 1 and 64-74 Under 35 U.S.C. § 102(e)

The Examiner has rejected claims 1 and 64-74 under 35 U.S.C. §102(e) as allegedly being anticipated by Mohamed *et al.* (U.S. Patent Application Publication No. 20060140931) ("the '931 application"). In particular, the Examiner is of the opinion that "Mohamed et al. teach a bispecific molecule comprising an anti-CR1 antibody linked to a non-neutralizing antibody that binds to a bacterial antigen or toxin (see, abstract, claims and page 4, paragraph 0033)."

Applicants respectfully traverse the foregoing rejection on the grounds that the '931 application fails to teach or suggest each and every element of the claimed invention. Reconsideration and withdrawal of the rejection in light of the following discussion is respectfully requested.

For a prior art reference to anticipate a claimed invention, the prior art reference must teach each and every element of the claimed invention. Lewmar Marine v. Barient 827 F.2d 744, 3 USPQ2d 1766 (Fed. Cir. 1987).

A summary of claim 1 and the definition of "non-neutralizing" antibody are set forth above.

The '931 application is directed to the targeting of *Bacillus anthracis* (Anthrax) using bispecific monoclonal antibodies which comprise a monoclonal antibody specific to CR1 cross-linked with an anti-anthrax monoclonal antibody, the 14B7 antibody (see, *e.g.*, Abstract and Examples of the '931 application, especially paragraph 0160). The '931 application discloses that the 14B7 antibody was well known in the art and cites the Little *et al.*, 1988, *Infect Immun.* 56:1807-13 reference[1] (see, *e.g.*, paragraph 0160 of the '931 application). The Little *et al.* reference discloses the creation of the 14B7 antibody and discloses that it "***neutralize[s]*** lethal

and edema toxin activity by inhibiting binding of PA to cell receptors" (Emphasis added) (see, *e.g.*, Abstract and page 1807, left column, third full paragraph of Little *et al.*). Therefore, the 14B7 antibody disclosed in the '931 application is, by definition, a neutralizing antibody. In contrast, the pending claims require a bispecific molecule comprising an anti-CR1 antibody ***linked to a non-neutralizing antibody*** that binds to a bacterial antigen or toxin. Moreover, the reference fails to teach or suggest bispecific molecules comprising an anti-CR1 antibody linked to a non-neutralizing antibody that specifically binds to *S. aureus* protein A. Thus, the '931 application does not teach or suggest each and every element of the pending claims.

Therefore, Applicants respectfully submit that, contrary to the Examiner's assertions, Lindorfer *et al.* fail to teach or suggest each and every element of the claimed invention expressly and/or inherently and, thus, Lindorfer *et al.* fail to anticipate the claimed invention. For the foregoing reasons, rejection of the claimed invention is believed to be improper and Applicants respectfully request that it be reconsidered and withdrawn.

Rejection of Claims 1, 63, 65-68, 71, 72, 74 and 76 Under 35 U.S.C. 103(a)

The Examiner has rejected claims 1, 63, 65-68, 71, 72, 74 and 76 under 35 U.S.C. § 103(a) as being unpatentable over Lindorfer *et al.* (cited above) in view of Anderson *et al.* (U.S. Patent No. 6,194,549) ("the '549 patent"). Specifically, the Examiner is of the opinion that

> Lindorfer *et al.* teach a bispecific molecule comprising an anti-CR1 antibody linked to a non-neutralizing antibody that binds to a bacterial antigen or toxin (see abstract and page 2241)...
> Anderson et al. teach monoclonal antibodies, fragments and derivatives that can be used in protein an immunoassay (see column 19, lines 45-55 and column 16, lines 10 to 55). Anderson et al. teach antibodies that bind Staphylococcus aureus Cowan strain I (see column 18, lines 19-40). Anderson et al. also teach 3D2 monoclonal

Applicants respectfully traverse this rejection on the grounds that the Examiner has failed to establish a *prima facie* case of obviousness since Lindorfer *et al.* and Anderson *et al.*, alone or in combination, fail to teach or suggest the claimed invention and further fail to

[1] Little *et al.* was cited as reference C8 on the Information Disclosure Statement Form SB/08 filed on March 28, 2007.

provide the necessary motivation or reasonable expectation of success for the ordinarily skilled artisan to arrive at the presently claimed anti-inflammatory compounds.

To establish a *prima facie* case of obviousness, it is necessary for the Examiner to present evidence, preferably in the form of some teaching, suggestion, incentive or inference in the applied references, or in the form of generally available knowledge, that one having ordinary skill in the art would have been motivated to make the claimed invention and would have had a reasonable expectation of success in making the claimed invention. Under section 103, "[b]oth the suggestion and the expectation of success must be founded in the prior art, not in applicant's disclosure." (*Amgen, Inc. v. Chugai Pharmaceutical Co., Ltd.* 927 F.2d 1200, 1207, 18 USPQ2d 1016 (Fed. Cir. 1991), quoting *In re Dow Chemical Co.,* 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed Cir. 1988)). Moreover, when a combination of references are used to establish a *prima facie* case of obviousness, the Examiner must present evidence that one having ordinary skill in the art would have been motivated to combine the teachings in the applied references in the proposed manner to arrive at the claimed invention. See, *e.g., Carella v. Starlight Archery,* 804 F.2d 135, 231 USPQ 644 (Fed. Cir. 1986); and *Ashland Oil, Inc. v. Delta Resins and Refractories, Inc.*, 776 F.2d 281, 227 USPQ 657 (Fed. Cir. 1985).

Claim 1, and the claims depending therefrom, are directed to bispecific molecules comprising an anti-CR1 antibody ***linked to a non-neutralizing antibody that specifically binds to S. aureus protein A***. Claim 76, as amended, is directed to a bispecific molecule comprising an anti-CR1 antibody linked to an antibody that is selected from the group consisting of: 3F3, 2F9, 3F10, 3D2, 16E11, 2C11, 6C3, and ***a non-neutralizing antibody that recognizes S. aureus Protein A***.

As discussed above, Lindorfer *et al.* is directed to the targeting of *Pseudomonas aeruginosa* using bispecific monoclonal antibodies which comprise a monoclonal antibody specific to CR1 cross-linked with the antibacterial monoclonal antibody 2H4 (see, *e.g.,* Abstract and page 2241, left column, first full paragraph of Lindorfer *et al.*). Lindorfer *et al.* specifically note that the monoclonal antibody 2H4, by itself, is "capable of fixing complement" (see, *e.g.,* page 2244, left column, first sentence of Lindorfer *et al.*). Therefore, since the 2H4 antibody is capable of fixing complement, it is, by definition, a neutralizing antibody. In contrast, the pending claims are directed to bispecific molecules comprising an anti-CR1 antibody linked to a non-neutralizing antibody that specifically binds to *S. aureus* protein A. Thus, the claimed bispecific molecules are non-obvious over the teachings of Lindorfer *et al.*

Moreover, the secondary reference of Anderson *et al.* fails to make up for the aforementioned deficiencies in the primary reference of Lindorfer *et al.* Specifically, Anderson *et al.* is directed to monoclonal antibodies that bind to unique epitopes present on ***the natural killer cell molecule PEN5*** (see, *e.g.*, Abstract of Anderson *et al.*). Anderson *et al.* only utilize the *Staphylococcus aureus* Cowan strain I to activate ***splenic B cells*** to test for cell surface expression of PEN5 on the B cells using the anti-PEN5 antibodies (see, *e.g.*, column 18, lines 19-41 of Anderson *et al.*). Contrary to the Examiner's assertions, Anderson *et al.* do not teach or suggest antibodies that bind *Staphylococcus aureus*. Thus, Anderson *et al.* neither teach nor suggest the use of bispecific molecules comprising an anti-CR1 antibody linked to a non-neutralizing antibody that specifically binds to *S. aureus* protein A, as required by the pending claims. Thus, the claimed bispecific molecules are non-obvious over the teachings of Anderson *et al.*

The Examiner alleges that "[o]ne of skilled in the art would have also been motivated to apply Anderson et al. monoclonal antibodies of that bind Staphylococcus aureus protein A for therapeutic purposes." However, Applicants submit that, as described earlier, Lindorfer *et al.* is directed to bispecific monoclonal antibodies which comprise a monoclonal antibody specific to CR1 cross-linked with the ***neutralizing*** monoclonal antibody 2H4, and Anderson *et al.* is directed to ***antibodies against the natural killer cell-specific molecule PEN5*** and other ***anti-keratan sulfate monoclonal antibodies***. Thus, the references, even if combined, fail to teach or suggest a bispecific molecule comprising an anti-CR1 antibody ***linked to a non-neutralizing antibody*** that binds to S. aureus protein A, as required by the pending claims, let alone that that such a molecule could be used for therapeutic purposes.

For the foregoing reasons, the claimed bispecific molecules are non-obvious over the teachings of Lindorfer *et al.* and Anderson *et al.*, either alone or in combination. Accordingly, Applicants respectfully request that the rejection of claims 1, 63, 65-68, 71, 72, 74 and 76 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance. If a telephone conversation with the Applicant's attorney would expedite prosecution of the above-identified application, the Examiner is invited to call the undersigned at (617) 227-7400.

Dated: December 20, 2007

Respectfully submitted,

By _____

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